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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/922,871	08/06/2001	Kwok Pun Cheung	609920600018	8511

24325 7590 07/17/2003

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EXAMINER

NGUYEN, DINH Q

ART UNIT	PAPER NUMBER
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3752

DATE MAILED: 07/17/2003

13

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/922,871

Applicant(s)

CHEUNG, KWOK PUN

Examiner

Dinh Q. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 April 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4,7,15,17-22,24 and 26 is/are pending in the application.
- 4a) Of the above claim(s) 7,20 and 21 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 26 is/are allowed.
- 6) ☒ Claim(s) 15 and 17-19 is/are rejected.
- 7) ☒ Claim(s) 1,4,22 and 24 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: in claim 1, the limitation "diffuser outlets being vertically downward" is not disclosed in the instant specification. In claim 15, the limitation "the container being vented" is not disclosed in the instant specification.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Thorpe in view of Hubbard.

Thorpe discloses a container 11 to be suspended from an aircraft 10 flying over an ground target 15, the container having a container outlet 37 and a vent 41 for venting the container, the liquid exit the container through the outlet 37 by gravity force, a diffuser 16/17 to diffuse liquid by gravity force into air above the ground target (figure 2). Thorpe does not disclose the liquid diffuse throughout a circular area extending horizontally outward beyond the container. Hubbard discloses a container 16 suspending from an aircraft 10 having a diffuser 24 and 26 extending horizontally outward beyond the container 16 (figure 2). Therefore, it would have been obvious to

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one having ordinary skill in the art to have provided the device of Thorpe with a diffuser that extends horizontally beyond the container to diffuse liquid over the target area outwardly beyond the container as suggested by Hubbard. Doing so would provide a way to diffuse the liquid over a wide area (column 2, lines 5-18).

4. Claims 17-19 rejected under 35 U.S.C. 103(a) as being unpatentable over Thorpe in view of Hubbard as applied to claim 15 above, and further in view of Nance.

Thorpe in view of Hubbard teaches all the limitations of the claims except for a plurality of circular diffusing areas that overlaps each other. However, Nance discloses an aircraft 6 with a container 14 having a diffuser configured to diffuse liquid over a plurality of circular areas that overlaps each other (figure 1). Therefore, it would have been obvious to one having ordinary skill in the art to have provided the device of Thorpe and Hubbard with a plurality of circular diffusing areas that overlaps each other as suggested by Nance. Doing so would provide an effective spraying device.

Allowable Subject Matter

5. Claim 26 is allowed

6. Claims 1 and 4 would be allowable if the specification is rewritten to overcome the objection indicated above.

7. Claims 22 and 24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

8. Applicant's arguments filed April 29, 2003 have been fully considered but they are not persuasive.

9. Applicant's arguments with respect to claims 15, 17-19 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dinh Q Nguyen whose telephone number is (703) 305-0248. The examiner can normally be reached on Monday-Friday 6:30-4:00 alternate Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Mar can be reached on (703) 308-2087. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9302 for regular communications and (703) 872-9303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0861.

dqn
July 14, 2003



Dinh Nguyen

Patent Examiner